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WHAT IS CLAIMED IS:

1. A waist strengthening and rehabilitating apparatus, in which a support unit is constructed by assembling all or some
5 of a footrest, a backrest, a pedestal, a handle and related frames, and waist exercises are conducted utilizing a backrest frame operated in conjunction with a load controller with the

lower part of his body being fixed to the support unit, said apparatus further comprising;

10 lower body holding means mounted on said support unit, said lower body holding means being comprised of a front thigh holder for tightly holding the front portion of the thigh and a rear thigh holder for tightly holding the rear portion of the thigh.

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2. The waist strengthening and rehabilitating apparatus according to claim 1, wherein said lower body holding means further comprises pelvis holding means, said pelvis holding means consisting of a front pelvis holder for tightly holding
20 the front portion of the pelvis and a rear pelvis holder for tightly holding the rear portion of the pelvis.

3. The waist strengthening and rehabilitating apparatus according to claim 1 or 2, wherein said lower body holding
25 means is constructed by all or some of said front thigh

holder, said rear thigh holder, said front pelvis holder and said rear pelvis holder.

4. The waist strengthening and rehabilitating apparatus
5 according to claim 1, wherein said front thigh holder and said rear thigh holder is each provided with an inclination support unit.

5. The waist strengthening and rehabilitating apparatus
10 according to claim 1, 3 or 4, wherein said front thigh holder comprises:

moving means in which a pressurizing bar is guided by two pairs of moving links supported by fixed frames;

inclined link supporting means provided with an elastic
15 support that supports one inclined moving link;

stopper means for preventing the moving link from being moved rearward and allowing the moving link to support the pressurizing bar; and

pressurizing means for allowing a pressurizing rod to be
20 pressurized by moving forward the moving link.

6. The waist strengthening and rehabilitating apparatus according to claim 5, further comprising a pressure meter operated according to pressure exerted from said pressuring
25 holder to said pressurizing rod, said pressure meter being

mounted on a portion moved together with said pressuring holder so as to recognize the amount of the pressure.

7. The waist strengthening and rehabilitating apparatus
5 according to claim 1, further comprising a holding release unit for momentarily loosening said holding means, said holding release unit being mounted on said lower body holding
means.

10 8. The waist strengthening and rehabilitating apparatus according to claim 1, further comprising a manual exercise lever for manually conducting exercise, said manual exercise lever being mounted on a frame moved together with said backrest or a portion of said load controller moved together
15 with said backrest frame.

9. The waist strengthening and rehabilitating apparatus according to claim 1, further comprising a measuring instrument such as a load cell mounted on a frame moved
20 together with said load controller to measure resisting force caused by exercise load, and a braking unit for the braking adjustment of said load controller and sectional braking mounted on the rotating shaft of the frame moved together with said load controller.

25

10. The waist strengthening and rehabilitating apparatus according to claim 1, further comprising a vertical rotating shaft, said vertical rotating shaft being situated under the support frame of said backrest to be operated in conjunction
5 with said load controller, said vertical rotating shaft being aligned with the central line of the lumbar vertebrae so as to allow the waist to be twisted

11. A waist strengthening and rehabilitating apparatus,
10 in which a support unit is constructed by assembling all or some of a footrest, a backrest, a pedestal, a handle and related frames, and waist exercises are conducted utilizing a backrest frame operated in conjunction with a load controller with the lower part of his body being fixed to the support
15 unit, said apparatus further comprising;

lower body holding means for tightly holding the lower part of the body, said lower body holding means being mounted on said support unit;

a pressure meter for recognizing the degree of the
20 tightness of said lower body holding means, said pressure meter being mounted on a portion moved together with said lower body holding means; and

a holding release unit for momentarily releasing the holding of said lower body holding means by the application of
25 external manipulation, said holding release unit being mounted

on a portion moved together with said lower body holding means.

12. A load controller, comprising:

5 an annular space provided in a casing around its central shaft to accommodate with working fluid;

~~a vane having the same shape as the cross section of said~~
annular space positioned in said annular space to be operated in conjunction with said central shaft;

10 an working fluid adjustor situated in a portion of said annular space to adjust the direction and amount of working fluid; and

a fluid load adjustor formed to communicate with said annular space so as to adjust load by varying the volume of
15 the inner cavity thereof;

wherein said working fluid adjustor is comprised of a flow rate control valve and a flow direction control valve, and can adjust the direction and amount of working fluid.

20 13. A load controller, comprising:

load applying means, in which a load lever is mounted to a portion moved together with a central shaft and the size of load can be adjusted by changing the position of weights;

balancing means, in which an auxiliary load lever is
25 situated to be opposite to the load lever and resisting force

exerted from the outside to the central shaft is controlled by changing the position of weights;

clutch means that is disposed between a portion moved together with a central shaft and the load applying means to
5 connect or disconnect the load applying means with or from the apparatus;

~~attenuating means that is mounted on the moved portion of~~
the load applying means to attenuate return load generated by said load applying means while said load applying means is
10 returned to its original position after performing movement;
and

sectional braking means, in which a ratchet gear portion is formed on a portion moved together with the central shaft and a stopper is situated in the vicinity of the ratchet gear
15 portion, thereby performing sectional braking;

wherein said load controller includes all or some of said load applying means, said balancing means, said clutch means, said attenuating means, and said sectional braking means.